Volunteer Firemen

FEBRUARY

1940

NATIONAL FIRE PROTECTION ASSOCIATION
60 Batterymarch Street INTERNATIONAL Boston, Massachusetts

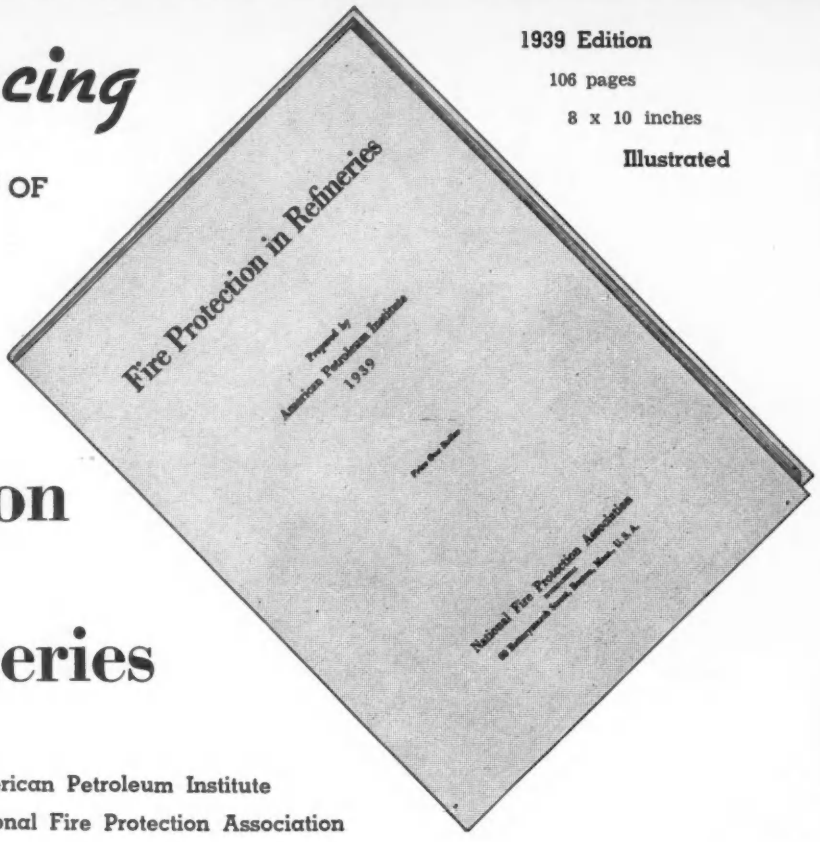
VOLUME 7, NUMBER 3. COPYRIGHT 1940 NATIONAL FIRE PROTECTION ASSOCIATION —— PRINTED IN U. S. A.

International

Announcing

AN N.F.P.A. EDITION OF

Fire Protection in Refineries



1939 Edition

106 pages

8 x 10 inches

Illustrated

Prepared by American Petroleum Institute

Distributed by the National Fire Protection Association

If there is an oil refinery in your community or near enough so that you may one day be called upon to fight a fire in it, you will want a copy of this new publication. It contains a wealth of good general information of value in connection with any fire in an oil property. Prepared by the Fire Prevention Committee of the American Petroleum Institute (member N.F.P.A.) it is made available by the National Fire Protection Association to its members as the best available information on the technical and specialized subject of fire protection in refineries.

The N.F.P.A. has not felt called upon to prepare an association standard on the subject. It is of concern only in the limited number of places where refineries are located and a complete understanding of the fire problem in this occupancy involves a more detailed knowledge of petroleum technology than is within the experience of the average firemen or fire protection engineer. However, the subject has shown itself to be of great general interest and the N.F.P.A. is happy to cooperate with the American Petroleum Institute in bringing the best information on it to the attention of its members.

This new book will make a valuable addition to any fire library. For convenience in ordering use the order form below.

NATIONAL FIRE PROTECTION ASSOCIATON **VF Feb. 40**
60 Batterymarch Street, Boston, Mass.

Please send me ..... copies of Fire Protection in Refineries, for which $ ..... ($1.00 per copy, postpaid) is enclosed.

Name ..... **Street Address** .....

City ..... **State** .....

CONTENTS

Fire. Vaporization of Petroleum—Combustible or Explosive Mixture—Ignition of Combustible Mixture—Combustion—Conclusions.

Fire Prevention. I. Design. Layout—Selection of Refinery Site. Location of Facilities — Block System — Administrative Buildings — Service Facilities — Shops—Process Units—Tanks—Design of Structures, Buildings and Facilities. **II. Operation.** Employee Rules and Regulations—Normal and Emergency Operations. **III. Maintenance.** Structures, Equipment and Hazards—Good Housekeeping.

Fire Control and Extinguishment. I. Equipment—First Aid Fire Appliances—Communications — Water System — Oil Transfer Pumps—Chemical Extinguishing Systems (foam, CO_2, steam). **Fire Fighting Organization. II. Fire Fighting Practices.** Administration—Analysis of Fires—Fire Fighting (water, foam, steam) — Limiting Spread of Fire — Sparks and Brands—Direct Flame—Radiant Heat—Flow of Oil (Boil-overs) — Propagation of Flame Through Vapor-Air Mixtures — Explosion — Toppling Structures — Salvage.

Appendix. Refinery Layout—Diking—Fire Stops — Fire Permits — tables, diagrams and photographs of typical fire protection equipment—Typical Procedure for Handling Tank Fires.

Volunteer Firemen

National Fire Protection Association

THE COVER picture this month shows at its height, a soap factory fire which occurred recently in Philadelphia, Pa. The fire is supposed to have started when a rosin still exploded in the room where some of the various materials going into the soap were compounded. Because naphtha, as well as rosin, was involved, the fire spread with great speed and soon enveloped the entire building, a two story, brick-joist structure with a plank roof.

Fanned by a forty-five mile wind, the fire threatened to spread to nearby buildings. Large areas on surrounding roofs were burned. Though exposed buildings also suffered cracked wired glass windows and in some cases the heat was sufficient to operate inside sprinkler heads, the fire did not spread beyond the building where it started.

The company's fire brigade, the municipal fire department, and a county volunteer department fought the fire from both municipal and private water mains. The loss was $175,000.

THE N.F.P.A. Suggested Ordinance on Flammable Liquids specifies that tanks containing different grades of flammable liquids be ventilated by separate vents. A fatal explosion reported by Horace M. Davis, State Fire Marshal of Nebraska, illustrates the importance of this provision.

When a boy was fatally burned in a kerosene explosion recently, investigators, including the state chemist, found that kerosene, bought by his father, contained a percentage of gasoline. The dealer from whom the liquid had been purchased was sought out immediately, and the neighborhood canvassed until all the polluted kerosene was recovered.

An investigation of the cause of the pollution disclosed that the dealer used three buried tanks of 5,000-gallon capacity each. Two contained gasoline, and one, kerosene. They were joined by a common vent which permitted overfilling of a gasoline tank until the overflow passed into the kerosene tank.

MORTALITY statistics of the United States Census Bureau show that in a given year nearly twice as many little girls of from 5 to 14 years of age are burned to death as boys of the same age. Since boys are generally considered more mischievous and more likely to play with fire or matches, the mortality figures would seem to give conclusive evidence of the dangerous flammability of small girls' clothing as compared with the heavier suits usually worn by boys. Perhaps some day, inexpensive fireproofed textiles will displace the flimsy, highly combustible fabrics now often used for dresses and cut the needless loss by fire of hundreds of young lives.

VOLUNTEER FIREMEN

Volume 7 Number 2

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch Street, Boston, Mass.

Percy Bugbee	General Manager
Robert S. Moulton	Technical Secretary
Horatio Bond	Chief Engineer
Warren Y. Kimball	Fire Record Dept.
Strafford Wentworth	Associate Editor

CONTENTS

For February 1940

How to Put Out a Chimney Fire 4

Many New Members 5
Eighteen Bethlehem Steel Fire Companies Join Volunteer Firemen's Section

Your Pumper's Capacity 6
What it means in terms of nozzle sizes and lengths of hose to use

Pumper Capacity at a Glance 7
Number of discharge outlets tells story

Sprinkler Tester 7
Clever device built by fire prevention bureau

Fire Prevention Week Contest Results 7

19 Killed in Minneapolis Hotel Holocaust 8

Annual Conflagration Map 9
Fewer big fires in 1939

Off the Fire Record 10
Fire departments give valuable service other than fire fighting

"Preventing Fires Through Electrical Safety" 12
New film available to Volunteers

Interesting Facts From Recent Fires 12

Pyrene Prize Letter Contest 14

THE American Medical Association compiles and publishes every year statistics on deaths and injuries due to fireworks in the hands of the public. Recently the A.M.A. made another important contribution to the anti-fireworks campaign when it devoted its weekly coast to coast broadcast to the subject. Included were stirring dramatizations of common Independence Day casualties and the hospital experiences which followed them.

IN the current issue of the N.F.P.A. Quarterly is an article by T. R. Truax, Chairman of the N.F.P.A. Committee on Fire Proofing and Preservative Treatments, disclosing the results of extensive tests on the use of chemicals in forest fire control. Mr. Truax is with the Forest Products Laboratory of the U. S. Forest Service, Madison, Wisconsin, which has been carrying on the investigation for the past three years with the help of other divisions of the Forest Service and the Michigan Department of Conservation. The work points out that the fire proofing effect of certain chemicals will retard the spread of fire if they are dissolved in water used for fire fighting. Where water is scarce, or you have to carry it to the fire on your back or equipment is inadequate to cope with the fire, the intelligent use of chemicals can yield important advantages. Included in the article is a table indicating the chemical mixtures tested and the results obtained with each.

THE estimated U. S. fire loss for December, 1939, according to the National Board of Fire Underwriters, is $27,959,200. This figure is based on notices of incurred loss received by companies members of the board, plus an allowance for unreported and uninsured losses. Losses for the year 1939 are $11,448,840 ahead of the losses for 1938. The following table shows the losses for each month of 1939 compared with losses for the same month of 1938:

	1938	1939
January	$27,676,337	$27,615,316
February	26,472,626	29,303,520
March	29,050,968	30,682,168
April	25,616,112	27,061,522
May	22,917,577	27,031,700
June	19,473,617	24,190,700
July	20,434,688	22,468,304
August	20,821,184	22,800,500
September	23,372,528	22,837,250
October	24,797,624	24,300,500
November	28,658,695	27,248,160
December	32,758,044	27,959,200
Total 12 months	$302,050,000	$313,498,840

HOW TO PUT OUT A CHIMNEY FIRE

FEBRUARY is in the heart of the chimney fire season. Probably every fire department far enough north to have below freezing weather in February may expect to make runs to chimney fires this month. Probably a great many departments in the south will respond to similar alarms.

There are certain good reasons for putting out a chimney fire even though a well constructed chimney should be able to burn itself clean before it would set fire to the rest of the house. If it's allowed to burn too long it may crack, and unless the crack is discovered and repaired after the fire, the chimney may immediately become a serious menace to the house. When a chimney is thoroughly dirty but otherwise in good condition, a fire may cause it to plug itself up with loosened soot and do a lot of smoke damage to the building. However, if the fire department is thoroughly familiar with the chimney in question, knows it to be of extra safe construction and is able to shut off all openings which might allow smoke and soot to get out into the building, there may be some advantage in allowing the fire to clean out the chimney and thus go out of its own accord. However, there are probably few departments which have sufficient information to follow this course. The owner of the building won't ordinarily have even the vaguest idea of what condition his chimney is in. There's usually no time to look it up in chimney inspection records, even if you keep them.

Most fire departments, therefore, elect to extinguish chimney fires, and have an established procedure for handling them, depending on the conditions of the fire and type of chimney.

If the chimney is straight, probably the best method of putting out the fire is to knock down the burning soot. This can easily be done with a simple tool that a lot of departments have made up in their own shops and are using with success. It consists of ten or a dozen pieces of chain, about the weight of pleasure car tire chains, wired together and tied to a rope. Lowering this assembly down the chimney does a good job of cleaning and pushing the fire into fireplaces, furnaces, stoves, or heaters where it can be allowed to burn itself out. The chain tool may also be used as a sweep for cleaning chimneys as a fire prevention measure.

The only preparation necessary before using the chain tool is to make sure that all openings which might give the fire a chance to get out into the house and allow smoke and soot damage are stopped up. If there's a fireplace, it can be covered with a "fireproof" blanket. Salvage covers may be used but they are combustible and will require watching.

IF the chimney fire is very hot or the chimney is offset so that the chain tool won't do the job, water can always be counted on. A spray, not a solid stream, should be used, and only a small amount of water. If care is taken there is no reason for water damage unless the chimney has cracks which will allow the water to escape. Small amounts of water, applied in a spray, will not ordinarily crack brick or lining tile. If there are cracks already there, the danger that fire might get through into the walls and do serious fire damage makes slight water damage justifiable. As in the use of the chain, chimney openings should be closed off before water is applied.

A good and simple tool for putting water on a chimney fire is a "U" shaped three-quarter inch pipe with a garden hose type spray nozzle attached to one end, and a booster or garden hose coupling at the other. The assembly can be hitched up to the hose and then hoisted over the chimney with an ordinary fire department plaster hook. The spray will cool the chimney and extinguish the fire quickly without the necessity of having anyone climb up the bricks to the top. This is important in many cases where the chimney may be high, weak, and thin, or covered with ice.

There are other ways of fighting chimney fires. Some departments dump sand, rock salt, baking soda, or other inert

Washington Post

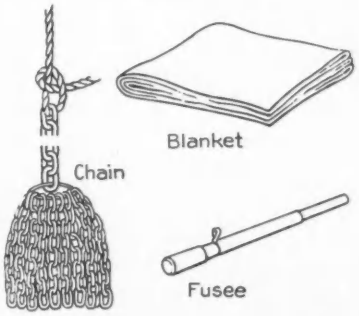
Defective or overheated chimneys and flues are rightfully blamed for 55,000 fires a year. Often a fire in a chimney spreading through a defect leads to scenes like this. In this case the roof was ignited almost immediately and fire spread out of control before help could arrive.

matter down the chimney to knock the soot from the walls. Rock salt is a common ingredient in proprietary compounds sold for extinguishing chimney fires or cleaning chimneys.

ANOTHER type of chimney compound is supposed to do wonders when tossed into the fire in a stove, heater, or fireplace. Some of these compounds are said to give off a gas which smothers the fire in the chimney. Fusees used by some fire departments are designed to do this. Sulphur has some such effect.

There is some question as to the efficiency of any of these other methods. Most fire departments therefore will use the mechanical way of extinguishing chimney fires with the chain tool or water "U" to do the job quickly and efficiently with a minimum of damage.

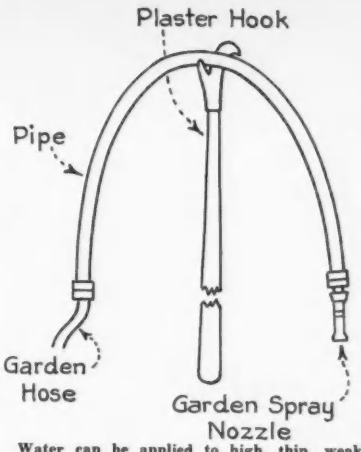
After any chimney fire, no matter what the method used to extinguish it, a thorough inspection should be made around the chimney, particularly in the attic, to make sure the fire has been confined to the chimney and has not spread into the walls or partitions.



These three tools are used extensively in fighting chimney fires. The chain is used as a sweep to knock down burning soot. Flue openings should be closed and fireplaces stopped with "fireproof" blankets or old salvage covers before it is used. The fusee when burned gives off gas which tends to extinguish the fire.

To make sure that the chimney has not been damaged by fire, departments frequently suggest a simple smoke test which can be employed as soon as the chimney has cooled and the building been cleared of smoke. A smudge fire can be built in the furnace or stove connected to the bottom of the flue. When the smoke is flowing freely, the chimney should be closed at the top. Any escape of smoke through chimney walls indicates defects that should be corrected.

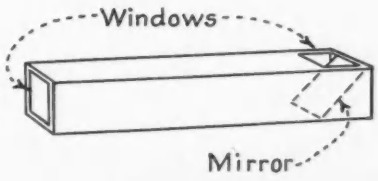
Many fire departments make a practice of inspecting every chimney in their district once a year. A simple periscope (see illustration) is easily constructed from a long wooden box and ordinary mirror and is very helpful in cases where it is not possible to look up or down the chimney due to offsets or too small openings. The end of



Water can be applied to high, thin, weak or ice encrusted chimneys which are hard to climb by lifting this assembly on the end of a plaster hook and placing the nozzle end in the top of the burning flue. To avoid water damage a spray nozzle should be used and water should be applied sparingly.

the periscope can be stuck through any smoke pipe opening and the condition of the chimney above or below the opening determined at a glance. If there is insufficient light, a guarded bulb on an extension cord can be lowered from the top of the chimney to the point where illumination is desired.

If, in inspecting the interior of an unlined chimney, it is found that mortar has fallen out from between the bricks, firemen should warn the owner that he'd better rebuild the chimney at once. Mortar which has once started to fall loose will soon do so all the way through. If there is no visible evidence of such deterioration, take a sharp instrument such as an ice pick and try to push it through the mortar. If it can be done, the chimney is dangerous and should be rebuilt.



This periscope is a handy tool for inspecting chimneys. With the mirror end stuck through a smoke pipe or other chimney opening you can look up or down the chimney and readily determine its condition.

If the exposed outside surface of a chimney is at any time too hot to rest the hand against without discomfort, it is an indication that any woodwork in contact with it is in an unsafe condition.

In rebuilding an old chimney, or constructing a new one, there are certain rules which, if followed, will insure the chimney's safety for years to come. These rules are given in detail in the N.F.P.A. leaflet, "Make Your Chimneys Safe." Copies will be sent on request to anyone interested.

MANY NEW MEMBERS

Eighteen Bethlehem Steel Fire Companies Join The Volunteer Firemen's Section

VOLUNTEER FIREMEN and the wealth of other fire protection information which is sent regularly to members of the Volunteer Firemen's Section is becoming ever more popular, not only with volunteer and paid departments, but with industrial fire brigades. Last month the Bethlehem Steel Company, one of the largest corporations in the western hemisphere, if not the world, took out memberships for eighteen of its plant brigades, thus enrolling 345 men. This brings the total number of plant brigades, members of the section, to 75 with 1,624 men receiving VOLUNTEER FIREMEN. They have found, like the other fire fighting forces of America, that N.F.P.A. membership can help them solve their special problems.

The Bethlehem Steel Company brigades in the following cities are welcomed to membership: Los Angeles, California; San Francisco, California; Chicago, Illinois; Baltimore, Maryland; Sparrow's Point, Maryland; East Boston, Massachusetts; Quincy, Massachusetts; Brooklyn, New York; Lackawanna, New York; Staten Island, New York; Bethlehem, Pennsylvania; Coatesville, Pennsylvania; Johnstown, Pennsylvania; Lebanon, Pennsylvania; Steelton, Pennsylvania; Seattle, Washington. Two other Bethlehem Steel Company brigades holding membership are known as: Industrial Collieries Corporation, Ellsworth, Pennsylvania, and Industrial Collieries Corporation, Reedsville, West Virginia.

Nine departments in addition to these have enrolled in the section since the roster of members was printed in the January issue. Seventy-one companies with 1598 men have renewed membership. These and the Bethlehem Steel brigades bring the total membership of the section to 700 companies with 15,357 men. Following are the fire companies which are newly enrolled:

The J. B. Williams Company, Glastonbury, Connecticut.

Independent Fire Company No. 1, Spring Lake Heights, New Jersey.

Phoenix Hose Company, Addison, New York.

Middletown Fire Department, Middletown, New York.

Ashland Fire Department, Windham, New York.

Lexington Fire Department, Lexington, North Carolina.

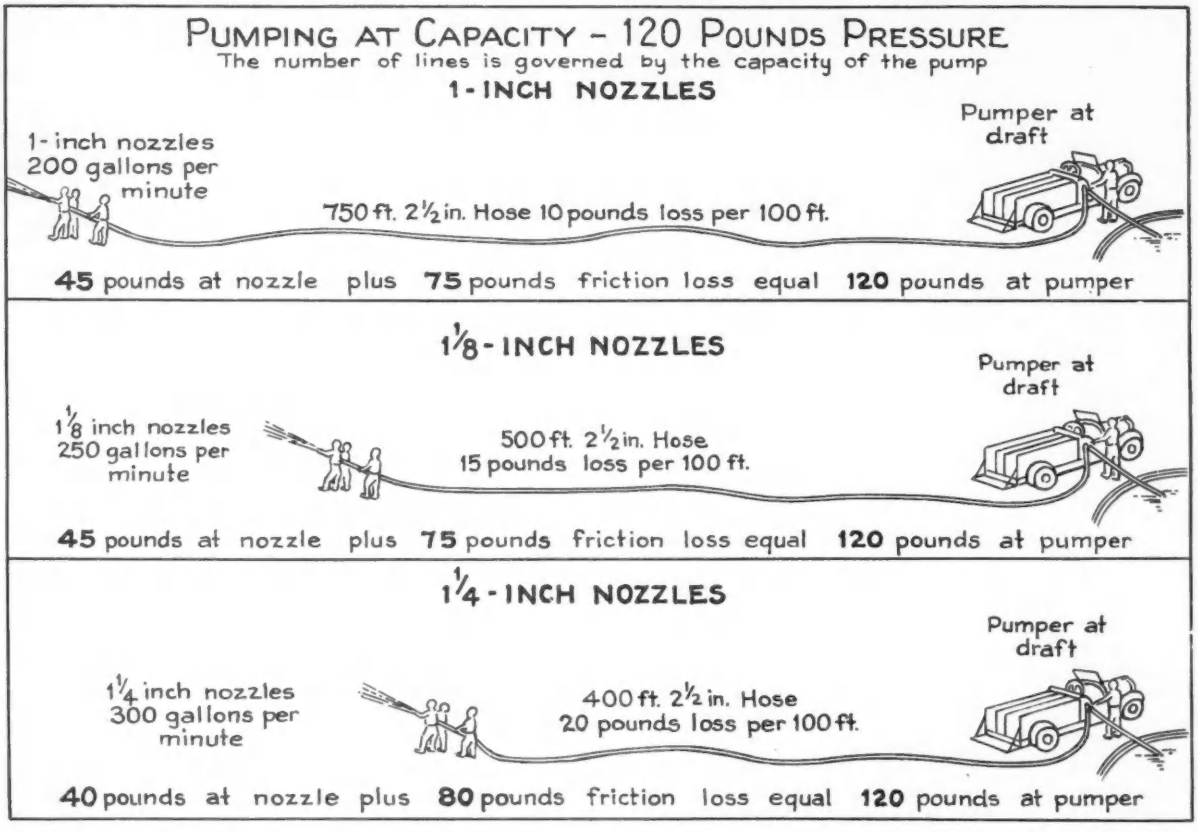
Apache Volunteer Fire Department, Apache, Oklahoma.

Eureka Fire Department, Eureka, Utah.

Tappanhannock Fire Department, Tappanhannock, Virginia.

Your Pumper's Capacity

DO YOU KNOW WHAT IT MEANS IN TERMS OF NOZZLE SIZES AND LENGTHS OF HOSE TO USE?


PUMPING AT CAPACITY - 120 POUNDS PRESSURE
The number of lines is governed by the capacity of the pump
1-INCH NOZZLES
1-inch nozzles
200 gallons per minute
Pumper at draft
750 ft. 2½ in. Hose 10 pounds loss per 100 ft.
45 pounds at nozzle plus 75 pounds friction loss equal 120 pounds at pumper
1⅛-INCH NOZZLES
1⅛ inch nozzles
250 gallons per minute
Pumper at draft
500 ft. 2½ in. Hose
15 pounds loss per 100 ft.
45 pounds at nozzle plus 75 pounds friction loss equal 120 pounds at pumper
1¼-INCH NOZZLES
1¼ inch nozzles
300 gallons per minute
Pumper at draft
400 ft. 2½ in. Hose
20 pounds loss per 100 ft.
40 pounds at nozzle plus 80 pounds friction loss equal 120 pounds at pumper

MOST pumpers are designed to deliver their greatest amount of water at 120 pounds pressure when operating at draft. Original tests to determine capacity are made at draft because it is important that all pumps be tested on the same basis and it is also important to know the ability of pumpers to take water at suction. Hydrants vary greatly as to pressure and supply, and the amount of water a pumper can turn out when working from any one hydrant often depends more upon the hydrant supply than upon the actual capacity of the pump.

For many years 120 pounds pressure has been the figure at which pumpers are required to give their maximum delivery of water. However, some of the pressure is lost in lifting the water in draft and some is lost due to friction in the suction hose. Therefore water will be discharged at a few pounds less than the 120 pound figure. However, for practical fireground calculations, 120 pounds discharge pressure may be taken as the figure at which the pump is discharging its greatest amount of water. At pressures above 120 pounds, more of the power of the engine must go to develop pressure and the amount of water which the pump can turn out is materially reduced.

The illustration above is intended to show the maximum effective lengths of 2½-inch lines which a pumper operating at capacity can deliver on level ground when taking water at draft. As shown, the larger nozzle sizes allow much greater flows. The greater flows in turn result in higher friction losses. This reduces the length of line that may be supplied while operating the pumper at full capacity. Of course the number of such streams that can be supplied by any engine depends upon the capacity of the individual pumper.

To determine the number of streams which a pumper can deliver when pumping at its capacity, simply figure the discharge (at effective pressure) of the individual nozzles you intend to use. Then find how many such streams equal the capacity of the pumper. For example, a 750-gallon pumper can give three 250-gallon streams (1⅛-inch nozzles); a 600-gallon pumper can supply two 300-gallon streams (1¼-inch nozzles) or three 200-gallon streams (1-inch nozzles); and a 500-gallon pumper is good for two 250-gallon streams (1⅛-inch nozzles).

Of course when a pumper is operating from a hydrant, the hydrant flow pressure may be added to the discharge pressure of the pumper at draft. If the hydrant pressure is 30 pounds when supplying the full capacity, the pumper would be discharging at 150 pounds instead of the usual 120 pounds. However, there are many hydrants such as those on small dead-end mains which may not be able to supply the full capacity of a pumper. Also, it frequently happens that a hydrant may give a good flow pressure when supplying only a single stream but the flow pressure may drop materially when several streams are supplied by the pumper or when several pumpers are operating from adjacent hydrants.

There is another factor which affects the length of line which pumpers can supply when operating at full capacity. Extra pressure is required to pump water up hill. This additional pressure is approximately 5 pounds for each 12 feet elevation. Because it is necessary to allow for such additional pressure when calculating pumper performance, many fire departments use the following rules: (a) 1¼-inch nozzles shall not be used on single lines more than 300 feet long, (b) 1⅛-inch nozzles shall not be used on single lines over 500 feet long. When larger nozzles must be supplied at greater distances, siamesed lines should be employed.

PUMPER CAPACITY AT A GLANCE

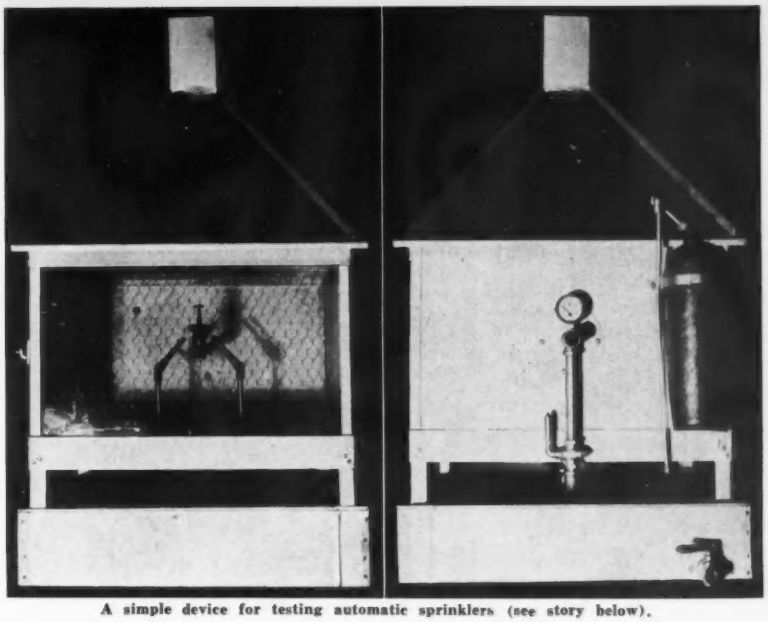
Number of Discharge Connections Tells Story

SOMETIME you may, in fighting a large fire with the help of outside departments, want to figure the performance of an unfamiliar pumper. The rated capacity of the pump may be unknown to you. Luckily, however, you can get a quick estimate of it by a glance at the machine, for fire apparatus manufacturers generally provide a definite number of pumper discharge connections according to the size of the pump.

The N.F.P.A. Specifications for Municipal Fire Apparatus provide that one gated outlet, 2½-inch size, shall be provided for each 300-gallons rated capacity of the pump or fraction thereof. Accordingly it is possible to make the following table so that by counting the discharge connections you have a pretty good idea of the capacity of the pump and how many lines it is intended to supply.

Pumper	No. Outlets
500 g.p.m.	2
600 g.p.m.	2
750 g.p.m.	3
1,000 g.p.m.	4

As a rule nothing less than a 500-gallon per minute capacity is recognized as a pumping engine. However, sometimes a large-size booster pump is equipped with a 2½-inch discharge connection making the truck look like a pumper. You can usually spot a machine which is not a full-sized pumper by noting the size of the suction intake connection. For pumpers of 500 gallons per minute or greater capacity, the suction intake is at least as large as the usual 4½-inch pumper connection on a standard hydrant. The smaller pumps, however, require an intake of only 2½ or 3 inches in diameter and are usually connected to the 2½-inch hydrant connections or use a reducer to connect the small suction hose to the regular pumper connection of a hydrant.



A simple device for testing automatic sprinklers (see story below).

SPRINKLER TESTER

Clever Device Built By Fire Prevention Bureau

THE Cincinnati Fire Department's Bureau of Fire Prevention has added the simple sprinkler demonstrating and testing device shown above to the elaborate fire prevention display described in the August, 1939 issue of VOLUNTEER FIREMEN. It is used to show firemen and members of the public just how a sprinkler head opens and discharges water, and also for the testing of heads that have been used in corrosive atmospheres or appear to have undergone deterioration.

The model is ingeniously constructed in that it does not need to be connected to any outside water supply and contains its own heating system. Three inches of water in the pan underneath is pumped out by a small electric pump through a hose attached to the spigot shown in the rear view. The discharge side of the pump is connected to a hose leading to the pipe on which the sprinkler head is mounted. A safety valve guards against excess pressure. The sprinkler head discharges the water into the enclosure, whence it drains again into the pan below. Thus the small amount of water is re-circulated through the machine and is sufficient for demonstrations of any length.

Heat to actuate the head is supplied by two gas flames fueled from the small cylinder of compressed gas mounted on the rear.

In testing a head the pump is turned on until the required pressure is indicated by the pressure gauge shown in the rear view. Then the gas flames are lit and the time and temperature required for operation are measured.

FIRE PREVENTION WEEK CONTEST RESULTS

MEMPHIS, Tennessee, for the third year in a row, has won top ranking in the annual Fire Prevention Week Contest conducted by the N.F.P.A. Committee on Fire Prevention and Clean-Up Campaign. Reports outlining activities during Fire Prevention Week Oct. 8 - 14, 1939, were received by T. Alfred Fleming, Chairman of the Committee, from 673 cities and towns in the United States, Alaska and Hawaii and 381 in Canada. This represents an increase of 43% in the number of U. S. communities and 60% in the number of Canadian communities participating in the contest. Honors for the largest number of reports filed went to the State of Indiana, Province of Quebec, Province of Ontario, and State of Kansas in that order.

The international committee of judges was composed of A. O. Dawson, President of Canadian Cottons, Ltd., S. D. McComb, President of the N.F.P.A., John J. McElligott, Chief and Commissioner of the New York Fire Department, and George W. Booth, Chief Engineer of the National Board of Fire Underwriters.

U. S. Cities and Towns following closely behind Memphis were ranked in this order: Cleveland, Ohio; Wichita, Kansas; Lakewood, Ohio; Milwaukee, Wisconsin; and Fort Collins, Colorado. Fire department members of the Volunteer Firemen's Section submitting reports which received special honor grades were Weston, West Virginia; Valley City, North Dakota; North Platte, Nebraska; Stillwater, Oklahoma; Kingsport, Tennessee; and Waynesboro, Va.

NINETEEN KILLED IN MINNEAPOLIS *Hotel Holocaust*

WHEN a sleepy janitor opened a door leading to an outside court of the Marlborough Apartment Hotel in Minneapolis early on the morning of January 3, he discovered what was to become the most terrible tragedy in the history of the city. The fire which jumped at him was to kill nineteen persons and totally destroy the building. He headed for a telephone and gave the alarm. Engines started rolling at 5:53 A. M. in five below zero weather. A box alarm was received from outside the hotel almost at the same time as the telephone call.

The Marlborough was a three-story and basement, brick-joist building rented out in 81 sections. There were 25 housekeeping apartments and 56 single rooms. The building was divided into three parts laid out in the shape of an "E." One hundred thirteen people, most of them asleep, were in it at the time the alarm was sounded.

When the first fire companies arrived in quick response to the alarms, the building was already completely involved. All of the exit doors were blocked by flames. Firemen turned in three additional alarms in quick succession, bringing a total of 11 pumpers, 3 hose wagons, 4 ladder trucks, one combination and a special rescue squad to the scene.

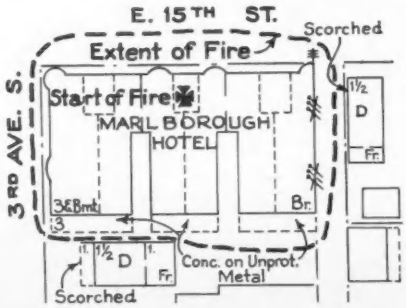
Pictures, Inc.

With ladders used for rescues still raised to many windows, firemen pour water into the gutted interior of the Marlborough apartment hotel, death trap for nineteen. Twenty-five suffered serious injuries.

Even before the department arrived people had started jumping out of windows. Several were killed in the falls to the cement pavement from upper floors. A police patrol which arrived ahead of the department reported seeing several come out of the flaming doorways.

Survivors reported later what had been going on inside. The lodgers, as they awakened in the smoke and heat, tried to escape down the inside stairways in front or the outside concrete stairways on the back of each section. When they found hallways blocked by smoke and flame, many dashed back to their rooms smashing the windows with chairs, shoes or fists to get a breath of air. Several were forced to jump by the fire which followed them through their open doors. Others stayed to be burned to death.

The first act of the firemen was to raise ladders to all windows in which people still stood and shrieked. A total of 1104 feet of ladders was used. Many were saved over them. Others, who would not or could not wait their turn, jumped to their death on the street.



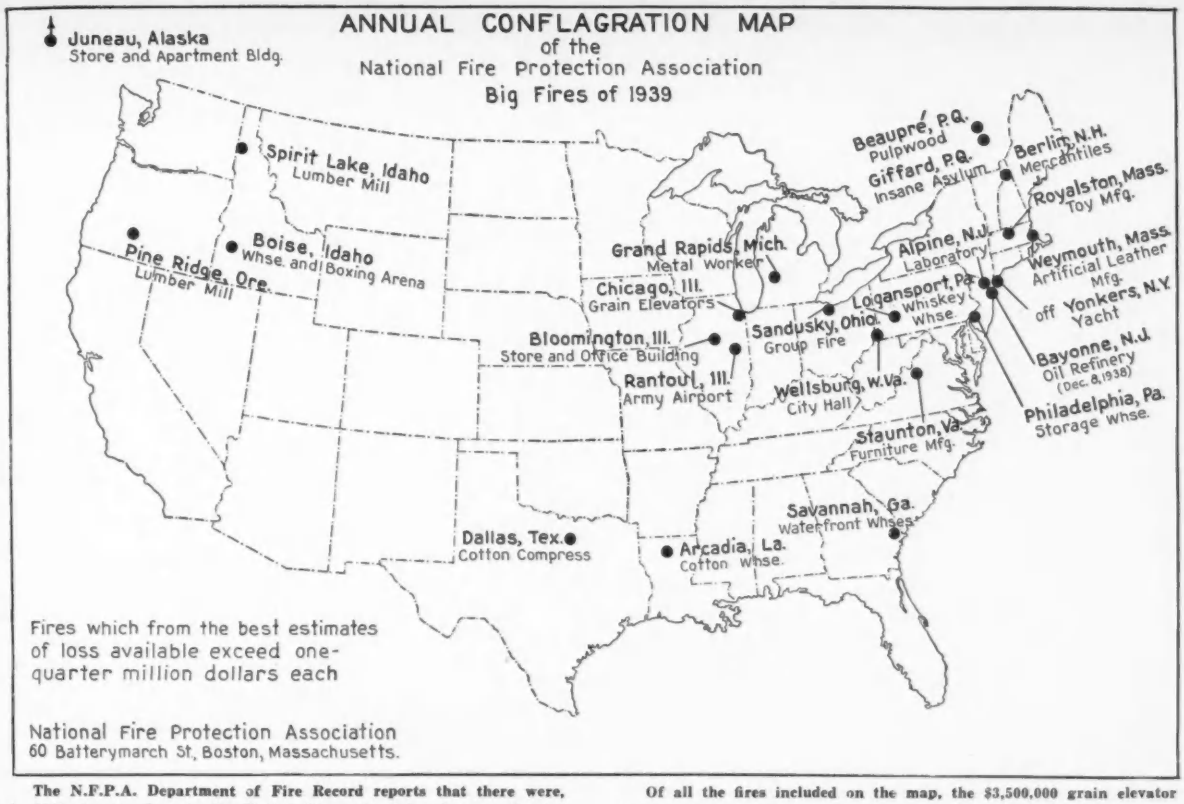
Meanwhile firemen got heavy streams on the fire. Water supply was good. Brick walls aided the firemen in confining the flames to the hotel itself despite frame buildings close by. The water which did not actually reach the fire froze on the walls, the street, the apparatus, the ladders, and firemen's uniforms. Before long, roof and floors collapsed inside the building and burned like kindling in a stove. Though firemen were on duty in the intense cold from the first alarm till dusk, the building was completely gutted and the fire was under control in two hours. A total of 567,965 gallons of water was poured into the building before it was out.

Though the cause of the fire has not been, and probably cannot be, definitely ascertained, local authorities believe that it was a cigarette thrown down a garbage chute in the front of the building. The idea was advanced that it smoldered in the garbage for several hours until the heat in the confined area became so intense that the fire broke out all at once. The arson squad is investigating other possible causes.

At least it is known that the building was entirely involved almost immediately. Fire swept along hallways and up stairs with terrible rapidity, cutting off all exits before tenants could be aware of what was happening. Even first floor families had to escape by windows, leaving all their belongings behind. The fire department, of course, had no opportunity to do salvage work during the fire, and when it was out there was almost nothing to salvage.

As this is written, the loss, total to building and contents, has been estimated at $55,000. This is of little moment in comparison with the 19 lives snuffed out during the first few minutes.

The factors which led to this first holocaust of the new decade are those



The N.F.P.A. Department of Fire Record reports that there were, in 1939, twenty fires in the United States involving losses estimated at more than $250,000 each. Also included in this year's tabulation is a large loss oil refinery fire in Bayonne, N. J., which occurred on December 8, 1938. A sufficiently accurate report on it was received too late for inclusion in the 1938 figures. The twenty-one U. S. fires included are 15 less than appeared on the 1938 annual conflagration map, and nine less than the average for the past five years. Also shown on the map are the two large loss fires which occurred last year in Canada and the one that occurred in Alaska.

Of all the fires included on the map, the $3,500,000 grain elevator conflagration at Chicago, Ill., May 11 caused the biggest loss. Nine men were killed in the explosion that started it. Two other fires caused more than a million dollars loss. Ten fires in all passed the half million mark.

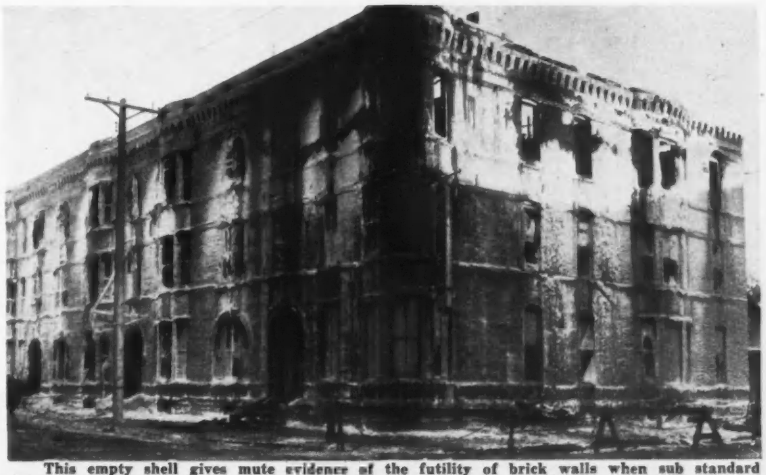
A total of eleven lives were lost in these fires, as compared with sixty-one deaths in the large loss fires of 1938. In the current issue of the N.F.P.A. Quarterly each of the fires is summarized, to show the factors responsible for the large loss.

which make a similar occurrence possible in nearly every city of the United States and Canada. Wherever you have great numbers of people crowded into unsprinklered, poorly constructed buildings with open stairwells, the scene is set for such a tragedy. In the Marlborough Hotel were six separate stairways, an ample number for the people who lived there. No attempt, however, had been made to close off those inside, and when fire started below, they acted like separate flues. This violation of the N.F.P.A. Building Exits Code was undoubtedly responsible for the 19 deaths, not to mention the complete destruction of the building.

This building was originally constructed in 1889. In 1920 a fire damaged it to the extent of $5,000. In 1928 hallway walls but not stairwells were replastered on metal lath, and a concrete porch section having three separate stairs was built across the back of the building. The outside stairs saved the lives of those who reached them. They could not, however, make up for the deficiencies of open inside stairways which allowed the fire to block hallways leading to them almost at once.

The Minneapolis fire is the third major hotel holocaust in as many years. Last March 2, the Queen Hotel Fire in Halifax, Nova Scotia, was responsible for 28 deaths, and on May 16, 1938, the Terminal Hotel Fire in Atlanta, Georgia, was fatal to 35. In all of these, important factors in the large number of deaths were open stairwells allowing the fire to spread out of control before the fire department could arrive.

Thanks are due to Arthur P. Spottswood, Chief of the Minneapolis Fire Prevention Bureau, and to the Fire Underwriters Inspection Bureau for providing us with reports of this fire.



This empty shell gives mute evidence of the futility of brick walls when sub standard interior construction is burning. Floors, partition walls and roof collapsed and were consumed as though they were in a stove.

OFF THE *Fire Record*

Fire Departments Give Valuable Service Other Than Fire Fighting

WHEN A LANSDOWNE, PA., CAT WENT UP A TREE HE CREATED QUITE A PROBLEM.
HIS OWNER TRIED FIRST, BUT COAXING AND BRIBES FAILED.
THEN THE S.P.C.A. HAD ITS TURN BUT ITS LADDER WAS TOO SHORT.
THEN A TELEPHONE LINEMAN TRIED BUT THE TREE TOP WAS TOO SLENDER.
BUT THE FIREMEN THOUGHT OF A WAY. THEY SHOOK THE CAT LOOSE AND CAUGHT HIM IN A BLANKET.
CHAMP IONS 1935 1936 1937 1938 1939
(NEWS ITEM)
DAHL

With thanks to Dahl and the Boston Herald

IT may be overemphasizing the importance of the great American pussy to use expensive apparatus for this purpose, but it's hard for a kind hearted fireman to say no. After all, she probably thinks more of her cat than she does of all your handsome trucks. She wouldn't trade it for the fire department, the police department, the mayor or the whole city population. If all of them aren't willing to put their entire resources at her command when her cat goes up a tree, they're just a bunch of bums.

It's not only a cat-lover's habit. People who want help in any emergency think first of the firemen. With all the clanging metal the department takes through the streets to a fire, it should be a help in any situation. Just say "Boo" to one of the timid souls you know, and see if he or she, especially she, doesn't turn in a fire alarm. That's the penalty you pay for announcing that you can get places fast and are always on call. What better recommendation is there to those who are facing a real, or imagined, emergency?

There are all sorts of emergencies, public and private. Fire departments are organized to fight public emergencies mostly, for even a dwelling fire is most often a threat to the lives and property of the public.

A private emergency, on the other hand, is a tough spot in which only one or two people are involved, having no more than gossip interest to the rest of the community. Classic private emergencies arise when junior locks himself in the bath room to avoid taking a bath, or someone comes home, without key, to a locked house. One department that had a regular plague of locked-outs got tired of letting absent minded women into their homes and made at least one of the fair creatures do the second story work for herself, though of course the men supplied and set up the ladder.

More serious emergencies arise when youngsters, too eager to try out new ice, splash through, or when children or adults get their hands caught in power clothes wringers. Fire department ladders are handy in crossing thin ice, and good heavy, machine-demolishing crow bars will spread the most rugged wringer. Rescue work in such cases is an important part of a fire department's service to its community.

Most departments are anxious to give special emergency service because they realize that they're equipped to do it better than anyone else. Even rescuing cats is good ladder practice and leads to public good will. However, in some cases the frequency of one type of call may become a nuisance. One department we know received a regular epidemic of demands to pump out flooded cellars. Finally the men became concerned over the wear and tear and possible damage to their pumpers. They solved the problem by building a special small pumping unit out of old apparatus. This they used only for basement work, setting a moderate charge to cover the cost.

Every fire department will have to figure for itself whether the frequency of minor emergency calls is a nuisance, and take its own steps to solve the difficulty. In making the decision, it's a good idea to remember that every time a truck goes out of quarters it not only eats up money, but also leaves the city fire defences temporarily weakened.

NEW APPARATUS FOR PENNSYLVANIA VOLUNTEERS

This is the new Mack salvage and pumper unit purchased recently by the Fairmont Fire Company of Lansdale, Pa. It is the first of its kind ever fabricated. Every inch of space is utilized with closed cabinets, each cabinet being marked to indicate the equipment inside so that firemen may lay hands on what is needed in the least possible time. Besides the cab, the pumper has a squad type body with seats for eight men. It is equipped with a flood and spot light-generator set, a 200-gallon booster tank, and a 200-gallon pump.

This streamlined quadruple combination has been purchased from the Ward LaFrance Truck Corporation by the Griffith Hook and Ladder Company of Kane, Pa. Ladders, suction hose, pike poles and other miscellaneous equipment are fully enclosed in the body. The hose body is not divided, and there is a new chute arrangement which facilitates hose laying operations.

TANK TRUCK FOR RURAL FIRE DEPARTMENT

This tank truck, equipped with a front mounted booster pump and a supply of booster and suction hose, has recently been purchased by the Oswego, Illinois, Fire District to follow its triple combination to country fires.

MINE Safety Appliances Co., Pittsburgh, has developed a new one-hour back-type oxygen breathing apparatus. It employs the same principles of operation as the front type breathing apparatus with the advantage that it will not hamper work in prone or stooping positions. Bulletin No. BM-2 describing the apparatus is available on request to the company at Braddock, Thomas and Mead Sts., Pittsburgh, Pa.

HERSEY & Co., Inc. announces Alligator Canvas Grips, a new device for handling large pieces of canvas at fires which eliminates the use of ordinary grommets. Aluminum jaws hold the fabric tightly with one quick twist and are said to stand more pull than a grommet without injury to the material. Further information may be had by writing Hersey & Co., Inc., 2021 Minor North, Seattle, Wash.

STOP FIRES

In Buildings, Rooms, Roofs--- Fires in Rubbish and Partitions

QUICKLY THIS WAY

INDIAN

Fire Pumps alone will handle 75% of your calls. No hose to lay. Water damage held to a minimum. Portable by hand or knapsack fashion. Save time, money, effort—use INDIANS on all Class A fires. Just keep 5-gallon tank filled with clear water. Pump throws powerful, high pressure stream. Truck carrying racks available.

New Rust Proof Tank

Let us send illustrated catalog in full color describing the many uses fire departments have for INDIANS. These all purpose fire fighters will give YOU more year 'round service than any other equipment. Write us today for catalog and prices.

D. B. SMITH & CO.

413 Main St., Utica, N. Y.

PACIFIC COAST AGENTS:

Hercules Equipment & Rubber Co. 550 Third Street San Francisco, Calif.

Western Loggers' Machinery Co. 302 S.W. 4th Street Portland, Oregon

Mill & Mine Supply, Inc. 2700 Fourth Ave., South, Seattle, Wash.

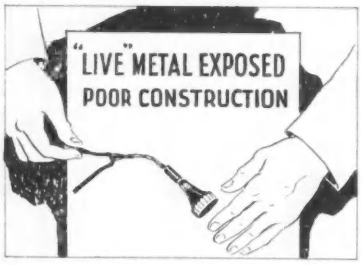
Roy G. Davis Co. 617 East Third St., Los Angeles, Cal.

"PREVENTING FIRES THROUGH ELECTRICAL SAFETY" NEW FILM AVAILABLE TO VOLUNTEERS

THE Public Relations Committee of the International Association of Electrical Inspectors has recently completed a motion picture on electrical safety. This film is available and can be borrowed by Volunteer Fire Depart-

ments for showings to public groups.

The picture was produced as part of the Inspectors' program to instruct the public in the safe handling of electrical wires and appliances which are being used in ever increasing numbers in homes. Electrical inspectors know that installations which are adequately safe when first installed, frequently become unsafe when occupants bring in substandard equipment and attach handyman wiring to the electrical system. They also know that most electrical inspection departments and most fire departments do not have the facilities to make re-examinations in homes.



The most effective way of avoiding unnecessary hazards, they feel, is through public education.

Inspectors point to N.F.P.A. figures to substantiate their conviction that education in electrical safety is necessary. Among the fires of known causes, those of electrical origin ranked in second place. In their dollar loss, electrical fires were first.

The New York Fire Department cooperated with the Electrical Inspectors in making the picture by providing firemen and equipment to appear in several of the scenes. A short version of the film was shown in the booth of the Fire Department in the New York World's Fair. The presentation takes the form of a talk given to a public audience by a uniformed fireman. After the lecturer has discussed some particular hazard, the scene shifts to a home, where it shows how the hazard is actually created, and the fire started. In each case the fireman explains how such fires can be avoided.

Prints are on 16 mm safety film and are silent. The pictures, with a few titles, tell the story completely. The film is 730 feet long and requires about 23 minutes to show.

The Committee has provided a number of copies of the film which have been placed in various sections of the country. All that is necessary to secure the film is to write to the nearest of the Committee's representatives and ask to borrow the film for a particular date or a specified time. The user must

pay the small shipping charge one way; the return shipment will be paid for by the Committee. Representatives handling the film are:

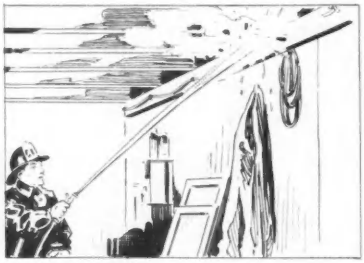
Paul Ferneding
85 John Street, New York

J. W. Dunning
City Hall, Columbia, So. Carolina

Frank G. Camus
City Hall, Shreveport, La.

John E. Wise
State Office Bldg., Madison, Wisc.

E. J. Stewart
701 Jackson St., Topeka, Kan.



Marion M. Wilson
804 Farlow Ave., Rapid City, S. D.

E. G. S. Pryor
Box 1818, Seattle, Wash.

F. D. Weber
P. O. Box 70, Portland, Oregon

K. W. Keene
500 Sansome St., San Francisco, California

Herbert G. Ufer
P. O. Box 6360—Metropolitan Sta., Los Angeles, California

INTERESTING FACTS FROM RECENT FIRES

THE Akron Fire Department recently fought a $92,000 fire in a three-story brick paper products company building. The blaze had great headway when the fire department arrived, due to a delayed alarm. Contributing to the delay was the fact that the man discovering the fire shortly after 1 a. m. drove his car three blocks to turn in a fire alarm, passing three other boxes. Such occurrences show the need of having boxes well marked and in the most visible locations.

MANY persons not informed in fire department matters often wonder why so much fire apparatus responds to what appear to them to be routine or trivial fires. The reason is well given in a recent fire involving a three-story mercantile building in Little Rock, Arkansas. The fire department received a call at 8:30 p. m. for a fire in an automobile in a parking lot. Upon arrival they found that the inside of the mercantile building was also involved, and they had to use six hose streams to fight the fire.

ANOTHER loss was added to the ever increasing list of fires that might not have been had the proverbial ounce of prevention been used by the operator, when an employee in a feed mill and elevator allowed overheated machinery to run all day long without a shutdown for investigation.

Finally at 4:40 o'clock in the afternoon, the blaze broke out from a hot bearing and the fire worked into a blind space between the walls, necessitating the use of hose streams in addition to the automatic sprinkler equipment. The result was a $62,000 loss.

THE fire department of St. Paul, Minn., performed a very fine piece of work last November when they extinguished a serious fire in a brush factory. Fortunately, this 4-story building was of fire-resistive construction with metal doors at each stairway from the first to the second floor. These doors helped to keep the fire confined to the first floor. When the first apparatus arrived, the front windows had already been blown out and the fire was coming out over the sidewalk. The fire was attacked from the front and rear and lines were placed on the enclosed stairways and at vertical openings on the second floor, confining the blaze to the point of origin.

Following this blaze, a chart was drawn of the building and the fire was refought by the men attending the fire department officers' school.

N.F.P.A. Membership for Your Company or Department

Membership with unusual advantages is available to fire companies and fire departments through the Volunteer Firemen's Section of the National Fire Protection Association. Here's the simple plan:

Your company or department applies for regular membership in the N. F. P. A. and pays the minimum $10 annual dues. When the application is accepted, the company or department begins to receive at headquarters the monthly bulletins and publications sent regularly to all members of the Association. Also comes a 100-page *Quarterly* Magazine (four times during the membership year), a volume of annual Proceedings (over 500 pages), a Directory of members, and an Index to printed publications. You thus build up a nice fire library. Membership also places at the disposal of the company or department the Information Service of the Association.

Membership Plan Includes VOLUNTEER FIREMEN for Your Company or Department

The publications and services enumerated above are what regular N. F. P. A. members get for their $10 annual dues. The special membership plan of the Volunteer Firemen's Section provides that *in addition* you get VOLUNTEER FIREMEN magazine for the men in your company or department. (The $10 minimum dues allows you to enroll up to 10 men to receive the magazine: $1.00 per year extra for each man in excess of 10 enrolled.) VOLUNTEER FIREMEN is mailed to each man's home address.

USE THIS COUPON FOR SPECIAL MEMBERSHIP PLAN

If your company or department is now a member, pass this coupon to some other company or department which might like to enjoy the benefits of this plan.

National Fire Protection Association, 60 Batterymarch St., Boston, Mass.:

Please send me a membership application blank. I am interested in your special membership plan for our company or department.

Name .....

Rank .....
(Chief, Sec'y, Capt., etc.)

Name of Company or Department .....

.....

Address .....

•increased• COMFORT and SAFETY* FOR TODAY'S FIREFIGHTERS

*Officially approved by the U. S. Bureau of Mines

The M·S·A ALL-SERVICE GAS MASK WITH THE NEW ALL-VISION FACEPIECE

When the hazards of Industrial gases, fumes or smokes must be faced in the line of duty, you can rely on the approved protection of the famous M.S.A. All-Service Mask—most popular canister-type unit ever developed, and now greater than ever! With the new All-Vision Facepiece, vision is unrestricted, lens-fog is eliminated, dead air space is reduced to the minimum, and easy gas-tight fit of the molded all-rubber facepiece is provided for any face without binding or local pressure. In every finer detail, you get increased comfort and convenience—at the new low price! Have us demonstrate the M.S.A. All-Service Mask for *your* Department, without obligation—and *write for Bulletin No. EA-4.*

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS & MEADE STREETS PITTSBURGH, PA.
District Representatives in Principal Cities

For Your Fire Library——

A Record of

1000 SCHOOL FIRES

•

72 Pages, 46 Illustrations

Includes the story of the Collinwood, Ohio, school fire in which 173 children and 2 teachers perished, and 7 other major school disasters involving a total loss of life to 694 persons. Analysis of the fires tabulating causes, types of buildings, places of origin of the fire and the like. Selected reports of typical fires, illustrating points of special interest, such as the effectiveness of automatic sprinklers and the value of fire drills.

Every fireman, school board member, local authority and parent should see a copy.

Single Copies . . . 35 cents

•

National Fire Protection Association INTERNATIONAL
60 Batterymarch St., Boston, Mass.

DETECTS FIRE IN ITS INFANCY

"FIRE-CRY"
AUTOMATIC
FIRE ALARM

The ultimate in thermostatically controlled, spring-operated individually contained, fire detection devices and the only one of this classification which bears the approval of Underwriters' Laboratories.

—A marvelous alarm in a field where there is unquestionably a great need for such an economically priced fire detection service.

For Further Information and Dealers' Proposition write

THE FYR-FYTER COMPANY
Dept. 20-50 DAYTON, OHIO

YOUR LIFE IS IMPORTANT!

DON'T RISK IT NEEDLESSLY

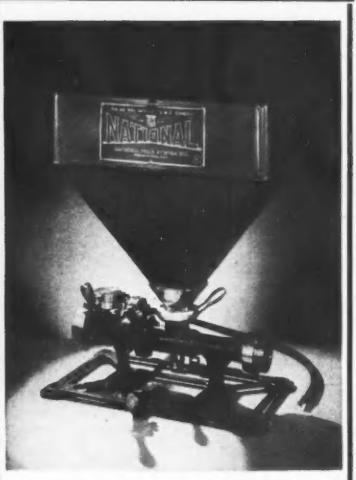
THE MODEL "V" SIREN

IS CONSIDERABLE ADDITIONAL ASSURANCE AT MINIMUM EXPENSE

WRITE FOR BULLETIN 62

FEDERAL ELECTRIC Co. Inc.

8717 S. State St. Chicago, Ill.



"SF-21 Fire Department Type Capacity 1200 Gallons of foam per minute

Invertible hopper for running board mounting

NATIONAL-FOMON

Generators and Chemicals

NATIONAL FOAM SYSTEM

INCORPORATED

Philadelphia, U. S. A.

$10.00-$3.00-$2.00 EACH MONTH

PYRENE PRIZE LETTER CONTEST

THREE firemen a month are taking home cash prizes easily won by telling their experiences with approved types of fire extinguishers to the judges of the Pyrene Prize Letter Contest. The contest is open to all members of fire departments and organized industrial brigades.

There must be a case in your experience where an extinguisher did good work in stopping a fire. It can be a prize winner. Just tell the story in a letter, giving the facts in your own way. Send your entry to the address given in the contest rules below.

FIRST PRIZE—$10.00

ARTHUR HOLMES, *Asst. Chief*

Yosemite Park Fire Department
Yosemite National Park, California

A Nasty Situation

Wawona, a little scattered community of a dozen homes nestled in a high mountain valley, has only one restaurant, if you can call it that. Really, it's just the front room of an old wooden house in which Mrs. Cuthbertsen serves home made meals, and good ones, at that. She uses gasoline lanterns for light.

It was Sunday evening and there was quite a group of summer people and locals having dinner. As it got dark, several lanterns were brought out. One didn't burn so well, needed pumping up, the girl who helps Mrs. Cuthbertsen said. One of the local men took it down and started pumping more air into it to increase the pressure.

The back pressure valve must have stuck. When he took his thumb off the pump a stream of fire played over the room. Bedlam broke loose. Burning gasoline lit on the table cloths, the floor, and one of the walls. It was a nasty situation, and there was no local fire department or equipment to help.

But Mrs. Cuthbertsen, in true, self reliant, country style, was equal to the occasion. She had a small carbon tetrachloride extinguisher, and boy! could she use it. In no time at all the fire was out.

SECOND PRIZE—$3.00

E. A. ANDERSON, *Chief*

Thomaston Fire Department
Thomaston, Maine

Dangerous Church Fire Killed

On the cold, wintry afternoon of March 29, last, the janitor of an immense wooden church, located a block from our station, came rushing in to say there was a small fire around the funnel of the wood stove in the church parlor. We jumped on our 750 gallon triple and in a matter of seconds arrived at the church.

I grabbed a soda-acid extinguisher in one hand and an axe in the other, meanwhile calling to one of our volunteers who happened to be on the spot to run the booster line while the driver hooked up the pump. In the parlor, I found that the fire had gotten into the wood lath and plaster wall which had been covered with wall board. It was burning upward towards a large blind space under the organ loft and pulpit of the auditorium. It had burned through the wall board to the surface for a considerable distance.

I got busy with the extinguisher and succeeded in killing the fire with a total loss to building and contents, including a valuable pipe organ, of less than $50.

The church is in a thickly settled part of town amid large wooden buildings. A few moments delay, and the high wind might have carried the flames beyond control of all the fire departments in the county. As it was, we didn't even have to use the booster line.

THIRD PRIZE—$2.00

HARRY BEASLY, *Chief*

Chrisney Volunteer Fire Department
Chrisney, Indiana

Not Even The Paint was Scorched

Our fire department holds its meetings at my garage. Last summer while a number of members were sitting out front waiting for the meeting to begin, my competitor across the street started locking up his station to come over. He has three gas pumps very close together on his island. When he snapped off the lights, an explosion ripped open the jacket of one of them. It was a visible type pump with a 10-gallon glass bowl on top. The bowl was full. Though it had survived the explosion, flames leaping around it made it appear that it could not last long.

By the time the owner got his carbon-tetrachloride extinguisher, two of us were over there with our one-quart guns. Under their streams the fire went out so fast that not even the paint was scorched. What a relief! Had that gasoline dumped out there would have been a "Hot time in the old town" that night.

HONORABLE MENTION

JACK RATHKA, Fire Department, Goshen, Indiana.

J. G. HANSON, Hose Co. No. 1, Volunteer Fire Department, Greenville, Maine.

F. F. GRAVES, *Asst. Chief*, Fire Department, Wellsville, New York.

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

RECORDS

A Selection of Forms Useful to Fire Departments

3. Building Record. Here's a card on which the company officer can keep a record of buildings in his district. He would have one card for each important building (cards would not ordinarily be kept for one or two family dwellings or other small buildings). The idea is that this card gives the fire officer a record of extinguishers, standpipes, sprinklers, other protection and a complete history of the building, tells when it was last inspected, for example, and other important information. 8½x11 in.
Price per pkg. of 100 cards.....$3.75

4. Apparatus Inspection Report. This form embodies a list of items to be checked periodically, monthly or oftener. It enables the company officer to report to the chief that his periodic check has been carried out and shows that motor, brakes, battery, oil, tires, and other working parts are in order and that extinguishers have been charged, hose changed and that in all particulars the apparatus is being properly cared for. 8½x11 in., salmon color.
Price per 100 in pads.....$1.75

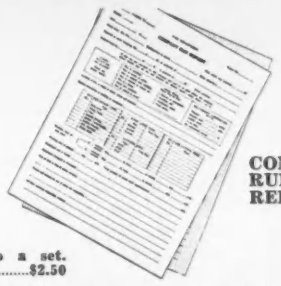
5. Hydrant Record. While the city water utility usually is responsible for the maintenance of hydrants, it is usually necessary for fire company officers to inspect every hydrant twice a year or oftener. This form provides a record of when such inspections or repairs were made, when the hydrant was painted and similar data. There is a place for essential data on location, size, connections, number of turns to open and flow capacity. 5 x 8 in., heavy cards.
Price per pkg. of 100 ..... $2.00

7. Report of Alarm other than for a Fire in a Building. Alarms where there was no fire, fires in rubbish and grass and fires in automobiles and other vehicles make up a large part of the work of any fire department. Most of these are trivial and promptly controlled. A record of the alarm must be kept but there's no need of loading up files or record books with needless details. This form is for use by the Chief in charge of the fire. He fills it out from the company run reports turned in to him by the officers of companies at the fire. It gives the department secretary the full information he needs to record the alarm in the department journal. 8½x11 in.
Price per 100 sheets in pads.....$2.00

8. Report of a Fire in a Building. Most questions about fires come up with reference to building fires. Here's a 4-page form for making sure all essential data which may be needed now or later is put down at the time of the fire. This record is one you'll be proud to have shown in court—in an arson case, for example. The company officer in whose district the fire occurs fills out the first page of the report. This gives the date, time, location and such data. Then it goes to the chief in charge of the fire, who completes it. There is space for putting in the losses to the building, owner and occupants and to record what fire equipment was used and how the fire was fought. 8½ x 11 in., 4 pages to a set.
Price per 100 sets in pads.....$2.50

COMPANY OFFICERS!

A Record and Report on Every Run Made By Your Company



COMPANY RUN REPORT

Form No. 2, 8½x11 in. 2 sheets to a set.
Price per 100 sets in pads $2.50

A written record of every run made by the company may settle important questions which come up as to where the call came from, who ordered the company out, what men were present and what the company did at the fire. This form is in sets of two sheets—a white original and a buff duplicate.

PUBLIC ADMINISTRATION SERVICE
1313 East 60th St. Chicago, Ill.

A Book about Record Forms Showing How to Use Them

A MODEL RECORDS AND REPORTING SYSTEM FOR FIRE DEPARTMENTS

By DeWayne E. Nolting

87 pages, size 8½x11 inches

This book tells the purpose and use, in all, of 27 different record forms used by fire departments. Each form is illustrated in full with details for each on size, color and paper stock. There are 7 other diagrams.

PUBLIC ADMINISTRATION SERVICE
1313 East 60th St. Chicago, Ill.

7. Inspection Blank (for Dwellings or Small Stores). This is a form for the use of men making routine inspections of small properties. It contains a place for the inspector to record what he finds out about the building, its housekeeping, chimneys, heating equipment, flammables stored, electrical and other hazards. The forms are in books arranged so that when filling out an original copy, a carbon copy is made. The carbon copy, a pink sheet, may be given to the owner or occupant. The original, a blue sheet, is kept by the officer or man making the inspection. 5½x8 in., two sheets to a set in books with manila covers.
Price for 100 sets.....$2.00

18. Hose Record. Keep a record of each length of hose purchased and get maximum service from it. There is a place on this card to show when hose was purchased, cost, brand, and name of manufacturer, also a place to record the number of each company to which the hose may be assigned, when tested, and other pertinent information. 5x8 in. heavy cards.
Price per pkg. of 100..... $2.25

27. Statistics of the Fire Department. The sheet is easily filled out on the typewriter and can take the place of a printed annual report for many fire departments, especially those having less than 300 alarms a year. Space is provided to record alarms and fires, losses, equipment used, inspections made and personnel changes in the department. A place is also available for the fire chief's recommendations. When filled out, the sheets contain the data on the fire department's work for the year which should be put on the desk of city, town, county or fire district officials and published in the newspapers. 8½x11 in.
Price per 100 sheets in pads..... $2.50

ORDER FORM

Public Administration Service
1313 East 60th St., Chicago, Ill.

Please send the following for which check or money order is enclosed:

Form No.	Number Wanted	
2 Company Run Rep.	@$2.50 per 100 sets	$.....
3 Building Record	@$3.75 per 100	.....
4 Apparatus Inspect'n	@$1.75 per 100	.....
5 Hydrant Record	@$2.00 per 100	.....
7 Rep. other than Fire in Bldg.	@$2 00 per 100	.....
8 Report of Fire in Bldg.	@$2.50 per 100	.....
9 Inspection Blank (in books)	@$2.00 per 100 sets	.....
18 Hose Record	@$2 25 per 100	.....
27 Statistics of Fire Dept.	@$2.50 per 100	.....
Model Records and Reporting System (book)	@$2.00	.....

Total remittance enclosed: $.....

Name .....

Address

Three-Fold Fire Alarm Box Accessibly and Visibly mounted on a Type U1000-6 Pedestal.

MORE ECONOMIC WASTE

because of a delayed alarm

This was once a flourishing chemical plant employing many and, by reason of its payroll and taxes, it did much for the economic welfare of the community.

Now look at it! A shambles that may never be rebuilt. People out of employment, tax revenue written off the books . . . all because of inadequacy in fire protection.

Fire alarm boxes that are hard to find or placed at too infrequent points mean DELAYED ALARMS. Every fire chief knows that the first few minutes . . . seconds . . . are most important in controlling a fire. Check up on conditions in your town.

Gamewell Offers Full Cooperation In Planning Fire Protection

Make the Gamewell Fire Alarm System your city's "first line of defense against fire!"

THE GAMEWELL COMPANY

NEWTON UPPER FALLS - MASSACHUSETTS